

Title (en)
METHOD AND APPARATUS FOR ANALYZING PROTEIN-PROTEIN INTERACTION ON SINGLE-MOLECULE LEVEL WITHIN THE CELLULAR ENVIRONMENT

Title (de)
VERFAHREN UND VORRICHTUNG ZUR ANALYSE VON PROTEIN-PROTEIN-INTERAKTIONEN AUF EINZELMOLEKÜLEBENE IN EINER ZELLULÄREN UMGEBUNG

Title (fr)
PROCÉDÉ ET APPAREIL POUR L'ANALYSE D'INTERACTION PROTÉINE-PROTÉINE AU NIVEAU D'UNE MOLÉCULE UNIQUE DANS UN ENVIRONNEMENT CELLULAIRE

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Abstract (en)
[origin: EP2700947A2] Disclosed is a method and an apparatus of analyzing protein-protein interactions at a single molecule level. The method includes binding the first proteins to the substrate where the first proteins are tagged with the first markers which bind specifically to the biomolecules immobilized on the substrate or the first proteins bind specifically to the biomolecules immobilized on the substrate; incubating the substrate bound first proteins with cell lysate containing the second proteins which are tagged with second markers; analyzing the interactions between the first proteins and the second proteins in the cell lysate, and obtaining the first analytic value representing the kinetic picture of the interactions; incubating the substrate bound first proteins with cell lysate mixture of a cell lysate consisting of the second markers-tagged second proteins and another cell lysate comprising other proteins including unlabelled second proteins and obtaining the second analytic value; comparing and analyzing the first and the second analytic values. The method and apparatus enables detailed analysis of protein-protein interactions at the single molecule level in a lysate that is equivalent to the normal intracellular environment. Also the method and apparatus enables assessment of the degrees of effects that other proteins may have on specific protein-protein interactions in the context of the normal intracellular environment.

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